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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

FORMAN, BETTY J

ART UNIT PAPER NUMBER

1634

DATE MAILED: 10/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/087,529

Applicant(s)

WILLIAMS ET AL.

Examiner

BJ Forman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 32-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, Claims 1-31 in the reply filed on 18 August 2004 is acknowledged.

Claims 32-45 are withdrawn from consideration.

Claims 1-31 are under prosecution.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 20-23, 25-28 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Bains et al (WO 97/15394, published 1 May 1997).

Regarding Claim 20, Bains et al disclose a liquid transfer plate comprising a planar body having a fill side, a dispense side and a plurality of channels extending from the fill side to the dispense side (page 3 and Fig. 1).

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Regarding Claim 21, Bains et al disclose the plate is made of silicon wafer (page 4, second full paragraph).

Regarding Claim 22, Bains et al disclose the channels have a varying diameter (page 3, fourth paragraph and Fig. 1).

Regarding Claim 23, Bains et al disclose the diameter decreases from fill side to dispense side (page 3, fourth paragraph and Fig. 1).

Regarding Claim 25, Bains et al disclose the channels have a circular cross section and diameter ranging from 2mm-0.1mm (page 3, fourth paragraph and Fig. 1).

Regarding Claim 26, Bains et al disclose the channels have a circular cross section and diameter ranging from 1mm-0.1mm (page 3, fourth paragraph and Fig. 1).

Regarding Claim 27, Bains et al disclose the plate wherein the plate (absent the nozzle plate) has a constant cross section (Fig. 2a).

Regarding Claim 28, Bains et al disclose the plate wherein the channels form a rectangular array (Fig. 1).

Regarding Claim 30, Bains et al disclose the plate wherein the body is a rectangular array (Fig. 1).

4. Claims 20, 21, 27, 28 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Zimmermann (U.S. Patent No. 6,481,648, filed 15 May 2000).

Regarding Claim 20, Zimmermann discloses a liquid transfer plate (microchip # 41, Fig. 3a) comprising a planar body having a fill side, a dispense side (#46) and a plurality of channels extending from the fill side to the dispense side (Column 9, lines 12-37).

Regarding Claim 21, Zimmermann discloses the plate is made of silicon wafer (Column 4, lines , second full paragraph).

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Regarding Claim 27, Zimmermann discloses the plate wherein the plate (absent the nozzle plate) has a constant cross section (Fig. 3b).

Regarding Claim 28, Zimmermann discloses the plate wherein the channels form a rectangular array (Fig. 3).

Regarding Claim 30, Zimmermann discloses the plate wherein the body is a rectangular array (Fig. 3).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-9, 13, 15-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmermann (U.S. Patent No. 6,481,648, filed 15 May 2000) or Bains et al (WO 97/15394, published 1 May 1997) in view of DeWitt et al (U.S. Patent No. 5,714,127, issued 3 February 1998).

Regarding Claim 1, Bains et al disclose a liquid transfer plate comprising a planar body having a fill side, a dispense side and a plurality of channels extending from the fill side to the dispense side (page 3 and Fig. 1) wherein the diameter decreases from fill side to dispense side (page 3, fourth paragraph and Fig. 1).

Zimmermann discloses a very similar liquid transfer plate (microchip # 41, Fig. 3a) comprising a planar body having a fill side, a dispense side (#46) and a plurality of channels

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extending from the fill side to the dispense side (Column 9, lines 12-37) wherein the system includes a pressure source fluidly connected to the source plate (Column 10, lines 8-9) and a target tray for holding the target substrates i.e. slide (Column 10, lines 19-35 and Fig. 6).

Zimmermann further teaches a robot facilitates use of the transfer plate (Column 10, lines 19-35) clearly suggesting to one of ordinary skill in the art to use robotics to manipulate transfer plates.

DeWitt et al teach robotic manipulators (Fig. 11) comprising at least four arms for positing plates and substrates (e.g. #90, 93, 94, 95, 100, 102) and further comprising a dispense nest (#95), arms (#100/102) movable in the x-y-z directions, rotating arms (# 86, 87,88) a camera i.e. monitor and a computer for controlling the operation of the robot (Column 15, lines 4-31). The functional language recited in Claim 17 describing computer functions does not define structural components of the system.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the robotic manipulator of DeWitt to the liquid transfer plates of Bains et al or Zimmermann based on the suggestion of Zimmermann to do so (Column 10, lines 19-35) and for the expected benefit of automating multiple reactions simultaneously as taught by DeWitt (Column 14, lines 59-61).

7. Claims 10-12, 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmermann (U.S. Patent No. 6,481,648, filed 15 May 2000) or Bains et al (WO 97/15394, published 1 May 1997) in view of DeWitt et al (U.S. Patent No. 5,714,127, issued 3

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February 1998) as applied to Claim 1 above and further in view of Gamble et al (U.S. Patent No. 6,001,309, issued 14 December 1999).

Regarding Claim 10-12, 14 and 18, the systems of Bains, Zimmermann and DeWitt are discussed above. While these systems do not specifically teach plate stackers or acoustic emitters, those elements were well known in the art at the time the claimed invention was made as taught by Gamble (Fig. 10). Gamble further teaches the advantages of acoustic emitters i.e. rapid and precise delivery of small quantities (Column 13, lines 28-31 and Column 14, lines 43-51) and the tray stackers i.e. provides storage (Column 11, lines 37-40). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the acoustic emitters and tray stackers of Gamble to the systems of Bains, Zimmermann and DeWitt for the expected benefit of convenient storage and rapid and precise delivery of small quantities onto the substrate as taught by Gamble (Column 13, lines 28-31 and Column 14, lines 43-51).

8. Claims 24, 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bains et al (WO 97/15394, published 1 May 1997).

Regarding Claim 24, 29 and 31, Bains et al disclose a liquid transfer plate comprising a planar body having a fill side, a dispense side and a plurality of channels extending from the fill side to the dispense side (page 3 and Fig. 1). Bains et al is silent regarding the thickness of the body and non-rectangular array e.g. circular or oval. However, the courts have stated that absent evidence to the contrary, a particular configuration of a known device is a matter of choice that would have been obvious to one skilled in the art. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) (The court held that the configuration of the claimed disposable plastic

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nursing container was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.).

Therefore the instantly claimed configurations would have been obvious to one of ordinary skill in the art based on the general teaching of Bains et al. For example, one of ordinary skill would have been motivated to use a non-rectangular array or oval transfer plate based on available equipment for manipulating the claimed shapes.

Conclusion

9. No claim is allowed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741. The examiner can normally be reached on 6:00 TO 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached on (571) 272-0745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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BJ Forman, Ph.D.
Primary Examiner
Art Unit: 1634
October 25, 2004